The Maury Project

Ira W. Geer
Education Program
American Meteorological Society
1120 G Street, N.W., Suite 800
Washington, DC 20005
Tel: 202-737-1043 Fax: 202-737-0445 Email: geer@ametsoc.org

Grant Number: N00014-05-1-0599
http://www.ametsoc.org

LONG-TERM GOALS

The Maury Project is an oceanography-based graduate-level teacher enhancement program, designed to promote the scientific literacy of young people by improving the background of pre-college teachers on the physical foundations of oceanography. The training of teachers is through a peer-training process of training the trainers at a two-week workshop held at the US Naval Academy and subsequently via single-topic modules presented in sessions presented throughout the United States.

OBJECTIVES

This project was designed to meet the following objectives:

(a) Master teachers will be trained to be peer trainers and resource persons on the physical foundations of selected oceanographic topics and/or issues.

(b) Self-contained single-topic teacher-enhancement instructional modules will be prepared and provided for use by the peer trainers in 1- to 2-hour training sessions.

(c) The peer trainers will arrange and conduct training sessions for other teachers, with support of the AMS.

(d) A national network of oceanography peer trainers and resource persons will be developed and maintained.

(e) A variety of instructional resource materials on the physical foundations of oceanography and related topics will be prepared and disseminated for adaptations by teachers for use in their own classrooms.

APPROACH

There were three major components to this program: summer workshops for master precollege teachers, the production of teacher enhancement instructional resource materials, and the peer-training of teachers. The intent was to provide a core group of teachers with the knowledge and instructional

Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
30 SEP 2007		**00-00-2007 to 00-00-2007**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
The Maury Project	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **American Meteorological Society,Education Program,1120 G Street, N.W., Suite 800,Washington,DC,20005**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
unclassified	**unclassified**	**unclassified**	**Same as Report (SAR)**	**4**	

resources enabling them, in turn, to train a large number of their peers on selected topics potentially appropriate as bases for learning experiences for young people in pre-college classrooms.

WORK COMPLETED

In Summer 2007, a two-week workshop for pre-college teachers on the physical foundations of selected oceanographic topics was held at the United States Naval Academy in Annapolis, MD.

RESULTS

With the training of 22 new participants in the Summer 2007 Maury Project workshop, a total of 334 teachers representing all 50 states, the District of Columbia, Puerto Rico, American Samoa, Argentina, Guam, Mexico, South Africa, Canada, Great Britain, Australia, Switzerland, Japan, and US Department of Defense Overseas School System have become peer trainers since the first peer-trainers summer workshop.

IMPACT/APPLICATIONS

Maury Project summer workshop participants are committed to organizing and offering a minimum of two single-topic training sessions lasting from one to two hours each.

During the past year a total of 71 peer-training sessions on Maury Project topics were presented for 1007 teachers. Summer 2006 workshop participants offered 32 of those training sessions for 377 teachers. An additional 30 training sessions were presented by teachers who attended the summer peer-trainers workshop in years prior to 2006. Sixteen Summer 2007 workshop participants have already reported training sessions for 139 teachers.

To see the multiplying effect of this program, consider that since its inception, almost 1,600 workshops have been conducted by peer trainers across the country, reaching close to 26,000 teachers, each of whom reaches about 100 students daily.

TRANSITIONS

Beginning in Spring 2004, Maury Project alumni have played major roles in the development and implementation of *DataStreme Ocean*, a semester-long teacher enhancement course that is being offered nationwide by the AMS with NOAA support. Maury Project alumni lead 25 Local Implementation Teams (LITs) for the course. Through Spring 2006 Semester, a total of 1035 precollege teachers were trained by this program. In Fall Semester 2006, another 195 teachers are enrolled.

Originally funded by the NSF for 3 summers starting in 1994, the existing Maury Project Summer Workshops at the Naval Academy received additional NOAA, Navy, and AMS support which made it possible to conduct workshops through Summer 2006. Funding from ONR assures the continuation of the workshop through Summer 2007. ONR has committed substantial support towards this continuation and is now its major sponsor.

RELATED PROJECTS

Building on the experiences gained in the Maury Project and the *DataStreme Ocean* distance-learning teacher enhancement course, the AMS has developed an introductory college-level course entitled, *Online Ocean Studies*. The course was pilot tested in the Spring 2005 semester at 12 undergraduate institutions and to date over 90 undergraduate institutions have licensed the course. This course would not exist without the experiences gained and the learning materials that evolved from those developed in the Maury Project. A major benefit of the *Online Ocean Studies* course is that it will reach hundreds of preservice pre-college teachers.

PUBLICATIONS

16th Symposium on Education (January 2007)

Marianne Hayes: Young Scholars Program.

John Moore: Promoting Earth System Science Education with Geospatial Technologies.

Kathleen Murphy: Starting a Local K-12 Student Chapter.

Mike Passow: Earth2class – Communicating Scientific Discoveries to Classroom Educators.

Mike Passow: Meeting the Weather and Ocean Education Challenges in New York State.

Ann Kelly: The Sea and Sky Connection in a High School Physical Science Class.

William Huskin: Teaching Elementary School Students about Climate Variability through the GLOBE Program.

Robert Wanton, John Moore, Kathleen Orr and William Huskin: Citizen Science: Obtaining

Environmental Literacy through Science Education and Media Collaborations.

EWOC 2006 (July 2006)

Beth Jewell, S. Schoedinger and C. McDougall: Ocean Literacy through US Science Standards.

James Backus: Coastal Upwelling and El Nino: The Maury Project Style!

Thomas P. Kelly and G. Rausch: Wind driven ocean circulation workshop.

John D. Moore, R. P. Wanton and W. R. Huskin: EWOCFest: Hands-On Meteorology.

Donald. Schulteis: Highs and Lows.

Craig Croone: A Maury Project Module: Density-Driven Ocean Circulation.

William Huskin and J. D. Moore: Enhancing Math and Science Education Through Project Atmosphere's Severe Weather Module.

William Huskin and J. D. Moore: Using DLESE to bring atmospheric and oceanographic digital resources to the classroom.

Michael J. Passow and M. R. Wolk: Meteorology and oceanography topics in the New York State science curriculum.

Robert P. Wanton, J. D. Moore, K. Orr, and W. Huskin: AMS Local Implementation Teams in Action: A Decade of Change.

Terri Kirby Hathaway: Caught in the drift: sea-beans and ocean currents.

George W. Rumpp, David R. Smith and T. K. Hathaway: Developing Extensions to Maury Project Modules to Enhance Teacher Utilization of the SE Atlantic Coastal Ocean Observing System (SEACOOS) Web Site**.**

Craig R. Wolter: Boiling Water, with Ice? (Discover the answer at the EWOCFest Workshop!)

William Blanchard: An application of beach measurement techniques from Project Maury to the evolution of a meso-tidal system at Sandy Hook, New Jersey.

Barbara K. Walton-Faria: Gravity Rules!

Ann Kelly: Cotton clouds

Kathleen A. Murphy: Catching the Invisible Giant: Our Earth's Atmosphere.

Kathleen A. Murphy and A. Kelly: The Sea and Sky Connection.

STAFF

I. W. Geer, J. M. Moran, R. S. Weinbeck, D. R. Smith, E. J. Hopkins, E. W. Mills, and B. A. Blair: AMS Education Program – a collegial success story.

David R. Smith, I. W. Geer, J. M. Moran, R. S. Weinbeck, and E. W. Mills: AMS programs to enhance education in the ocean sciences: The Maury Project and DataStreme Ocean.

David R. Smith, I. W. Geer and D. E. McManus: Twelve years of Maury Project summer workshops: a pictorial history.